

What is claimed is:

1. A computer implemented method of controlling the reception of an interactive application, comprising:

determining, using an electronic program guide, a timing offset object associated with a broadcast program, the timing offset object comprising:

a timing offset relative to the start of the broadcast program,

an interactive application object, and

an action to take with regards to the interactive application; and

performing the action on the interactive application object at the timing offset to maintain synchrony of the interactive application with the display of the broadcast program.

2. The computer implemented method of claim 1 wherein determining, using an electronic program guide, a timing offset object associated with a broadcast program comprises:

providing

timing information of a broadcast program, and

channel information of the broadcast program,

as inputs to an electronic program guide, to determine the broadcast program;

and

determining a timing offset object associated with the determined broadcast program.

3. The computer implemented method of claim 1 wherein determining, using an electronic program guide, a timing offset object associated with a broadcast program comprises:

providing

timing information of a broadcast program,

channel information of the broadcast program, and

location information of the broadcaster of the broadcast program

as inputs to an electronic program guide, to determine the broadcast program;

and

determining a timing offset object associated with the determined broadcast program.

4. The computer implemented method of claim 1 wherein the action to take is one of starting, running for a duration, stopping, suspending, resuming, or triggering the interactive application or an element of the interactive application.

5. The computer implemented method of claim 1 wherein the interactive application object is one of interactive content, interactive applications, or elements of interactive applications.

6. The computer implemented method of claim 1 wherein the interactive application object is one of identifiers of interactive content, identifiers of interactive applications, identifiers of elements of interactive applications, interactive content, interactive applications, or elements of interactive applications, and wherein performing the action on the interactive application object comprises:

determining from an identifier the interactive application object it identifies; and

performing the action on the identified interactive application object.

7. The interactive application object of claim 6 wherein the identifier is a pointer to a network source for interactive content.

8. The interactive application object of claim 6 wherein the identifier is a uniform resource locator (URL).

9. The computer implemented method of claim 1 wherein the interactive application object is a URL and performing the action on the interactive application object further comprises:

retrieving interactive content from a server on the Internet referenced by the URL;  
and

performing the action on the retrieved interactive content.

10. A system for referencing an electronic program guide to facilitate the control of the reception of an interactive application, the system comprising:

an application server for

determining, from the electronic program guide, a broadcast program based on  
time and channel information,

determining, based on the determined broadcast program, actions to take to  
retrieve and provide interactive content coordinated with the broadcast  
program, and

delivering the interactive content in accordance with the determined actions;  
and

a consumer premise equipment communicatively coupled to the application server  
for receiving and displaying the interactive content. )

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11. A system for referencing an electronic program guide to facilitate the control of the reception of an interactive application, the system comprising:

a consumer premise equipment for

determining, from the electronic program guide, a broadcast program based on time and channel information,

determining, based on the determined broadcast program, actions to take to retrieve and provide interactive content coordinated with the broadcast program, and

displaying the interactive content in accordance with the determined actions.

12. A system for facilitating the control of the reception of an interactive application, the system comprising:

an electronic program guide database for receiving time, channel, and location information as inputs and outputting an identifier of a broadcasts program;

a timing offsets database for receiving the identifier of the broadcast program output by the electronic program guide as input, and outputting

an identifier of interactive content,

an action to take on the identified interactive content,

a time at which to take the action; and

an interactive content database for receiving the identifier of interactive content output by the timing offsets database as input, and outputting interactive content associated with the broadcast program being displayed at the time and on the channel.

13. The system of claim 12 wherein the output interactive content is a URL identifying a location on a server on the Internet from which the interactive content can be retrieved.

14. A computer implemented method of controlling the broadcast and reception of an interactive application, comprising:

determining, using an electronic program guide, an interactive application associated with a broadcast program; and

controlling the interactive application to maintain synchrony with the display of the broadcast program.

15. The computer implemented method of claim 14 further comprising:

determining timing offsets associated with the broadcast program; and where

controlling the interactive application to maintain synchrony with the display of the broadcast program is done in accordance with the timing offsets.

16. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier; and

determining from the program identifier, an interactive application associated with the broadcast program.

17. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;

determining from the program identifier, a uniform resource locator (URL); and

determining from the URL, an interactive application associated with the broadcast program.

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18. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;  
determining from the program identifier, a URL;  
determining from the URL, an identifier of an interactive application associated with the program; and  
determining from the identifier of the interactive application, an interactive application associated with the broadcast program.

19. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;  
determining from the program identifier, an identifier of an interactive application associated with the program; and  
determining from the identifier of the interactive application, an interactive application associated with the broadcast program.

20. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a URL; and  
determining from the URL, an interactive application associated with the broadcast program.

21. The method of claim 15 wherein determining, using an electronic program guide, an interactive application associated with a broadcast program comprises:

determining from an electronic program guide, a URL;  
determining from the URL, an identifier of an interactive application associated with the program; and  
determining from the identifier of the interactive application, an interactive application associated with the broadcast program.



28. The method of claim 15 wherein determining timing offsets associated with the broadcast program comprises:

determining from an electronic program guide, a program identifier; and  
determining from the program identifier, timing offsets associated with the broadcast program.

29. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;  
determining from the program identifier, a URL; and  
determining from the URL, timing offsets associated with the broadcast program.

30. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;  
determining from the program identifier, a URL;  
determining from the URL, an identifier of an interactive application associated with the program; and  
determining from the identifier of the interactive application, timing offsets associated with the broadcast program.

31. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

determining from an electronic program guide, a program identifier;  
determining from the program identifier, an identifier of an interactive application associated with the program; and  
determining from the identifier of the interactive application, timing offsets associated with the broadcast program.



32. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

- determining from an electronic program guide, a URL; and
- determining from the URL, timing offsets associated with the broadcast program.

33. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

- determining from an electronic program guide, a URL;
- determining from the URL, an identifier of an interactive application associated with the program; and
- determining from the identifier of the interactive application, timing offsets associated with the broadcast program.

34. The method of claim 15 wherein determining timing offsets associated with a broadcast program comprises:

- determining from an electronic program guide, an identifier of an interactive application associated with the program; and
- determining from the identifier of the interactive application, timing offsets associated with the broadcast program.

35. The method of claim 15, wherein the broadcast program is a television show, and wherein controlling the interactive application further comprises:

- responsive to determining from the timing offsets that an element of the interactive application is to be executed at a time relative to the beginning of the television show, generating a command to execute the element of the interactive application at the given time.

36. The method of claim 15 wherein the broadcast program is a television show, and wherein controlling the interactive application further comprises:

responsive to determining from the timing offsets that there is a break in the television show, generating a command to suspend execution of the interactive application associated with the television show; and  
responsive to determining from the timing offsets that the break in the television show has ended, generating a command to resume execution of the interactive application associated with the television program.

37. The method of claim 15, wherein the broadcast program is a first television show, and wherein controlling the interactive application further comprises:

responsive to determining from the timing offsets that there is a break in the first television show, generating a command to suspend execution of a first interactive application associated with the first television show;  
responsive to determining from the timing offsets that the first television show is being broadcast after the break has ended, generating a command to restart execution of the first interactive application; and  
responsive to determining from the timing offsets that a second television show is being broadcast, generating commands to terminate the first interactive application and to begin execution of a second interactive application associated with the second television show.

38. The method of any of claims 36-37, wherein the break is due to a commercial being broadcast.

39. The method of claim 15 wherein determining an interactive application using an electronic program guide comprises:

- determining timing information of the broadcast program;
- determining channel information of the broadcast program;
- determining location information of the broadcaster of the broadcast program;
- and
- determining, using the timing, channel, and location information as inputs to an electronic program guide, an interactive application.

40. The method of claim 15, wherein controlling the interactive application comprises:

- executing, from an interactive application server, commands from the timing offsets for selectively instructing a server to trigger events within interactive applications and to schedule, start, stop, and cancel interactive applications for the broadcast program associated with the timing offsets at corresponding times determined by the timing offsets.

41. The method of claim 15, wherein the electronic program guide resides at least primarily on a viewer's own consumer premise equipment.

42. The method of claim 15, wherein the electronic program guide resides primarily on a server remote from a viewer's own consumer premise equipment.

43. The method of claim 15, wherein the interactive application is run at least primarily on a viewer's own consumer premise equipment.

44. The method of claim 15, wherein the interactive application is run primarily on a server remote from a viewer's own consumer premise equipment.

45. A computer implemented method of controlling the reception of at least one interactive application, comprising:

determining, using an electronic program guide, a list of interactive applications associated with a broadcast program;

pre-fetching the listed interactive applications;

storing the pre-fetched interactive applications;

receiving a trigger for one of the fetched applications; and

inserting one of the interactive applications into the broadcast stream in response to the trigger.

46. A computer implemented method of controlling the reception of at least one interactive application, comprising:

determining at a consumer premise equipment (CPE), using an electronic program guide, a list of interactive applications associated with a broadcast program;

pre-fetching the listed interactive applications;

storing the pre-fetched interactive applications in a storage device coupled to the CPE;

receiving, at the CPE, a trigger for one of the fetched applications; and

displaying, at the CPE, one of the interactive applications in response to the trigger.

47. The computer implemented method of either claim 45 or claim 46 wherein the trigger is received in the broadcast stream.

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